

Amendment "A"

Please withdraw claims 2, 5, 7, 10-22, 26, and 30-42. The state of the claims following this Amendment "A" is as follows:

Claim 1 (original). A media level measurement apparatus, comprising:

a sensor configured to provide a temperature signal corresponding to an ambient temperature;

a controller configured to provide a first signal and a second signal;

a source configured to provide an electrical current in response to the first signal;

10 a thermistor device electrically coupled to the source and configured to provide a
11 level signal corresponding to a level of a media in contact with a lengthwise portion of
12 the thermistor device during the electrical current; and

13 a signal processor configured to provide a media level signal in accordance with
14 a comparison between the level signal and the temperature signal in response to the
15 second signal.

17 Claim 2 (withdrawn). The apparatus of claim 1, and wherein the signal processor
18 includes an analog-to-digital converter.

20 Claim 3 (original). The apparatus of claim 1, and wherein the media is an imaging
21 media.

23 Claim 4 (original). The apparatus of claim 1, and wherein the source is further
24 configured to provide a predefined pulse of electrical current in response to the first
25 signal.

1 Claim 5 (withdrawn). The apparatus of claim 1, and wherein the thermistor device
2 includes a thermal window defining the lengthwise portion of the thermistor device and
3 configured to contact the media.

4

5 Claim 6 (original). The apparatus of claim 1, and wherein the sensor and the thermistor
6 device are defined by substantially equivalent temperature coefficients.

7

8 Claim 7 (withdrawn). The apparatus of claim 1, and wherein the thermistor device is
9 further configured such that the level signal includes a varying resolution corresponding
10 to the level of the media in contact with the thermistor device.

11

12 Claim 8 (original). The apparatus of claim 1, and wherein the thermistor device is
13 configured to be supported such that the lengthwise portion extends along a majority of
14 a depth wise dimension of a media reservoir.

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16 Claim 9 (original). The apparatus of claim 1, and wherein the controller is further
17 configured to:

18 provide the first signal;

19 wait for predetermined period of time; and

20 provide the second signal after the predetermined period of time.

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1 Claim 10 (withdrawn). A level measurement apparatus, comprising:
2 a microcontroller including an executable program code and a plurality of lookup
3 tables, each of the lookup tables including level data, the program code configured to
4 cause the microcontroller to:
5 provide a trigger signal;
6 sense a level signal at a predetermined time after providing the trigger
7 signal;
8 sense an ambient temperature signal;
9 cross-reference a particular one of the plurality of lookup tables
10 corresponding to the ambient temperature signal;
11 cross-reference particular level data within the particular lookup table
12 corresponding to the level signal; and
13 provide an imaging media level signal in accordance with the particular
14 data.

15
16 Claim 11 (withdrawn). The level measurement apparatus of claim 10, and further
17 comprising an electrical source electrically coupled to the microcontroller and configured
18 to provide a pulse of electrical current in response to the trigger signal.
19

20 Claim 12 (withdrawn). The level measurement apparatus of claim 10, and further
21 comprising a thermistor device electrically coupled to the microcontroller and configured
22 to provide the level signal in correspondence to a level of an imaging media in contact
23 with a lengthwise portion of the thermistor device during a pulse of electrical current
24 applied to the thermistor device.
25

1 Claim 13 (withdrawn). The level measurement apparatus of claim 12, and wherein the
2 thermistor device is further configured to be supported such that the lengthwise portion
3 extends along a majority of a depth-wise dimension of an imaging media reservoir.

4

5 Claim 14 (withdrawn). The level measurement apparatus of claim 12, and wherein the
6 thermistor is further configured such that the level signal includes a varying resolution
7 corresponding to the level of the imaging media in contact with the thermistor device.

8

9 Claim 15 (withdrawn). The level measurement apparatus of claim 10, and further
10 comprising an ambient temperature sensor electrically coupled to the microcontroller
11 and configured to provide the ambient temperature signal.

12

13 Claim 16 (withdrawn). The level measurement apparatus of claim 10, and wherein each
14 of the plurality of lookup tables includes a plurality of data records, each data record
15 including:

16 a predetermined range of values of the level signal; and

17 the level data representing an imaging media level corresponding to the
18 predetermined range of values.

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1 Claim 17 (withdrawn). A media level measurement apparatus, comprising:

2 a controller configured to provide a first signal and a second signal;

3 a first current source and a second current source each configured to provide a
4 pulse of electrical current in response to the first signal;

5 a thermistor device electrically coupled to the first current source and configured
6 to provide a level signal corresponding to a level of an imaging media in contact with a
7 lengthwise portion of the thermistor device during the associated pulse of electrical
8 current;

9 a sensor electrically coupled to the second current source and configured to
10 provide a temperature signal corresponding to an ambient temperature during the
11 associated pulse of electrical current; and

12 a signal processor configured to provide a media level signal in accordance with
13 a comparison between the level signal and the temperature signal in response to the
14 second signal.

15
16 Claim 18 (withdrawn). The apparatus of claim 17, and wherein the sensor and the
17 thermistor device are defined by substantially equivalent temperature coefficients.

18
19 Claim 19 (withdrawn). The apparatus of claim 17, and wherein the first current source
20 and the second current source and the thermistor device and the sensor are mutually
21 electrically coupled to define a bridge circuit.

22
23 Claim 20 (withdrawn). The apparatus of claim 17, and wherein the thermistor device is
24 further configured such that the level signal includes a varying resolution corresponding
25 to the level of the imaging media in contact with the thermistor device.

1 Claim 21 (withdrawn). The apparatus of claim 17, and wherein the thermistor device is
2 further configured to be supported such that the lengthwise portion extends along a
3 majority of a depth-wise dimension of an imaging media reservoir.

4

5 Claim 2 (withdrawn). The apparatus of claim 17, and wherein the controller is further
6 configured to:

7 provide the first signal;

8 wait for predetermined period of time; and

9 provide the second signal after the predetermined period of time.

10

11 Claim 23 (original). An imaging apparatus configured to form images on a sheet media,
12 comprising:

13 a reservoir configured to support an imaging media, the reservoir defining a
14 depth-wise dimension;

15 a thermistor device configured to provide a level signal corresponding to a
16 quantity of an imaging media within a majority of the depth-wise dimension of the
17 reservoir; and

18 a controller coupled in signal communication with the thermistor device and
19 configured to control at least one operation of the imaging apparatus in accordance with
20 the level signal.

21

22 Claim 24 (original). The imaging apparatus of claim 23, and wherein the controller is
23 further configured to provide a level message corresponding to the level signal to a user
24 computer.

1 Claim 25 (original). The imaging apparatus of claim 23, and wherein the thermistor
2 device is further configured to provide the level signal in correspondence to a level of the
3 imaging media in contact with a lengthwise portion of the thermistor device.

4

5 Claim 26 (withdrawn). The imaging apparatus of claim 25, and wherein the thermistor
6 device includes a thermal window defining the lengthwise portion of the thermistor
7 device and configured to contact the imaging media.

8

9 Claim 27 (original). An apparatus, comprising:

10 a reservoir configured to support an imaging media, the reservoir defining a depth
11 wise dimension; and

12 a thermistor device configured to provide a level signal corresponding to a
13 quantity of the imaging media within a majority of the depth-wise dimension of the
14 reservoir.

15

16 Claim 28 (original). The apparatus of claim 27, and wherein the apparatus is configured
17 to electrically couple the level signal to a controller of an imaging apparatus.

18

19 Claim 29 (original). The apparatus of claim 27, and wherein the apparatus defines an
20 imaging media cartridge for use with an imaging apparatus.

21

22 Claim 30 (withdrawn). The apparatus of claim 27, and wherein:

23 the thermistor device includes a thermal window defining a lengthwise portion of
24 the thermistor device; and

25 the thermal window is configured to contact the imaging media within the majority
of the depth-wise dimension of the reservoir.

1 Claim 31 (withdrawn). The apparatus of claim 27, and wherein the thermistor device is
2 further configured such that the level signal defines a varying resolution corresponding to
3 the quantity of the imaging media within the majority of the depth-wise dimension of the
4 reservoir.

5

6 Claim 32 (withdrawn). A thermistor device, comprising:

7 a substrate; and

8 a thermistor material supported by the substrate, wherein the thermistor device is
9 configured to provide an electrical resistance corresponding to a level of a media in
10 contact with a lengthwise portion of the thermistor device.

11

12 Claim 33 (withdrawn). The thermistor device of claim 32, and wherein the thermistor
13 material substantially defines a strip including a lengthwise varying cross-sectional area.

14

15 Claim 34 (withdrawn). The thermistor device of claim 32, and wherein the thermistor
16 material defines first and second substantially perpendicular lengthwise portions.

17

18 Claim 35 (withdrawn). A thermistor device, comprising:

19 a plurality of discrete thermistors electrically coupled as a series circuit, wherein
20 the thermistor device is configured to provide an electrical resistance corresponding to a
21 level of a media in contact with a lengthwise portion of the thermistor device.

22

23 Claim 36 (withdrawn). The thermistor device of claim 35, and wherein each of the
24 discrete thermistors are defined by a respective temperature coefficient, and at least one
25 of the temperature coefficients is substantially different than the other temperature
coefficients.

1 Claim 37 (withdrawn). A thermistor device, comprising:

2 a mandrel; and

3 a thermistor wire defining a helix supported about a lengthwise portion of the
4 mandrel, wherein the thermistor device is configured to provide an electrical resistance
5 corresponding to a level of a media in contact with a lengthwise portion of the thermistor
6 device.

7

8 Claim 38 (withdrawn). The thermistor device of claim 37, and wherein the thermistor
9 wire defines a helix defined by a varying pitch.

10

11 Claim 39 (withdrawn). A thermistor device, comprising:

12 a substrate;

13 a thermally conductive material supported by the substrate; and

14 a thermistor thermally coupled to the thermally conductive material, wherein the
15 thermistor device is configured to provide an electrical resistance corresponding to a
16 level of a media in contact with a lengthwise portion of the thermistor device.

17

18 Claim 40 (withdrawn). The thermistor device of claim 39, and wherein the thermally
19 conductive material substantially defines a strip including a lengthwise varying cross-
20 sectional area.

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1 Claim 41 (withdrawn). A thermistor device, comprising:

2 a thermal conductor defining a first end and a second end;

3 a heater thermally coupled to the thermal conductor proximate the first end and
4 configured to provide heat in response to an applied electrical current; and

5 a thermistor coupled to the thermal conductor proximate the second end and
6 configured to provide an electrical resistance corresponding to a level of a media in
7 contact with a lengthwise portion of the thermistor device.

8

9 Claim 42 (withdrawn). The thermistor device of claim 41, and wherein the heater is
10 defined by another thermistor.

11

12 Claim 43 (original). A method of measuring a media level, comprising:

13 providing a thermistor device;

14 supporting a lengthwise portion of the thermistor device in contact with the media;

15 applying an electrical pulse to the thermistor device;

16 waiting for a predetermined period of time;

17 sensing a level signal from the thermistor device after the predetermined period
18 of time;

19 sensing an ambient temperature;

20 comparing the ambient temperature to the level signal; and

21 providing a media level signal in response thereto.

22

23 Claim 44 (original). The method of claim 43, and wherein sensing the level signal from
24 the thermistor device after the predetermined period of time occurs during a
25 predetermined portion of the applied electrical pulse.

1 Claim 45 (original). The method of claim 43, and wherein supporting the lengthwise
2 portion of the thermistor device includes supporting the lengthwise portion of the
3 thermistor device such that the lengthwise portion extends along a majority of a depth-
4 wise dimension of a media reservoir.

5

6 Claim 46 (original). The method of claim 43, and wherein the media is an imaging
7 media.

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9 Claim 47 (original). The method of claim 43, and wherein sensing the level signal from
10 the thermistor device after the predetermined period of time occurs after the applied
11 electrical pulse.

12

13 Claim 48 (currently amended). A media level measurement apparatus, comprising:

14 means for sensing an ambient temperature;

15 means for providing a first signal and a second signal;

16 means for providing an electrical current in response to the first signal;

17 means for providing a level signal corresponding to a level of a media in
18 response to the electrical current; and

19 means for providing a media level signal in accordance with a comparison
20 between the level signal and the temperature signal in response to the second signal.

21

22 Claim 49 (original). A media level measurement apparatus, comprising:

23 thermistor means for providing a level signal corresponding to a level of an
24 imaging media in contact with a lengthwise portion of the thermistor means.

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(End of Amendment "A".)